

end threaded. The threaded end is screwed into matching threads in the support arms 22. A jam nut 28, locks the guide pin structure in the desired position within the support arm 22. A fixed head 30 is integrally formed on the pin structure 26 at the interface between the threaded portion and the smooth cylindrical portion. A spacer bar 32 comprises an elongated bar member having a pair of poles therethrough spaced complementary with the pair of guide pin members on each of the two support arms 22. With the spacer bars 32 in place relative to the two guide pins 26, spacing stability is provided for each pair guide pins.

A mounting bracket 34 is arranged to be secured to the underside of the top member 8 of the base member 6. The bracket 34 includes a main body plate 36. The plate 36 is basically a wide flat plate having the outer side extremities 38 bent downward at a 90° angle to provide unitary side members for the bracket. To the inner surface of each of the side members 38, there is secured a support guide member 40. Whereas the plate 36 with its side members 38 may be made of relatively rigid sheet steel, the support guide members may be made of a relatively thick tough plastic material or the like. In an exemplary embodiment constructed in accordance with the present invention, the support guide members were made of a fiber-filled phenolic resin such as that known in the art as Bakelite and was substantially  $\frac{3}{8}$ " in thickness. The support guide members may be secured to the side member 38 by means of suitable screws not shown. Each of the support guide members 40 is provided with a first and second guide groove 42 and 44, respectively. In each of the support guide members, the grooves 42 and 44 are open toward the inward surface of the guide member and are so arranged that the guide pins 26 fit into and are movable within the respective guide grooves 42 and 44. The rearmost guide groove 42 has a forward end which is parallel to and adjacent the upper edge of the support guide member 40. The rearmost end of the groove 42 is parallel to and adjacent the lower edge of the support guide member 40, the two end portions being substantially horizontal. Intermediate the two end portions of the groove 42 is an inclined or sloping portion which connects the two end portions. The rearmost guide pin 26 fits into and is adapted to be moved along the path defined by the guide groove 42. The forward groove 44 has a rearward portion about one-third of the length of the groove, parallel to and adjacent the lower edge of the support guide member 40. The groove then curves upwardly toward the front of the support guide member 40 and terminates in a button hook or re-entrant curve providing a terminal detent. The forwardmost guide pin 26 is positioned to fit into and move along the path defined by the forward groove 44.

In the operational position shown in full line in FIG. 4 and illustrated pictorially in FIG. 1, the engineer's keyboard 12 is supported by the pins 26 extending into the grooves 42 and 44 in the mounting bracket assembly 34. The rearmost pin 26 rests in the groove 42 at an intermediate position along the upper flat portion of that groove. The forward pin 26 rests in the forward terminal detent of the reentrant curve of the groove 44. Additionally, the lip 18 extending rearwardly from the bezel 16 of the engineer's keyboard overlays and rests upon the forward edge of the work surface of the top 8 of the base member 6. The underside of the lip 18 carries a cushion or pad 46 to cushion the engagement of the lip 18 on the edge of the top member 8. That engagement

of the lip 18 with the work surface top 8 gives additional support to the engineer's keyboard during at such time as the keyboard is operational and being manipulated by an engineer. When the authorized engineer has completed his manipulation using the keyboard 12, the keyboard may then be moved to its retracted or stored position. To accomplish that, the engineer grasps the keyboard 12 moving it slightly upward and forwardly to clear the lip from the edge of the work surface 8. During this time the forward pin 26 moves forwardly in the groove 44 around the forward button-hook bend. When the engineer's keyboard 12 is moved in a direction to cause the pins 26 to follow the prescribed path within the two grooves 42 and 44 the engineer's keyboard 12 is lowered to the position 20" shown in FIG. 4 then to the position 20" in FIG. 4, thence to the fully stored position shown at 20" shown in FIG. 4. In the stored position the keyboard is fully supported on the cantilever arms 22 secured to the pins 26 resting in the lower flat portion of the grooves 42 and 44. To return the engineer's keyboard to the operational position, the keyboard is pulled forward from the stored position, through the path defined by the grooves 42 and 44, to the position shown in FIG. 1.

Thus there has been provided, in accordance with the present invention, an improved computer interface console with a retractable engineer's keyboard wherein the support structure for the keyboard allowing the keyboard to be readily moved between an operational position and a fully retracted, stored position, is simple in structure and operation.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A computer interface control console arranged to interface with a digital computer, said console comprising:

- a base member having a top member,
- an operator's keyboard mounted on the surface of said top member of said base member for connection to said computer to effect operational control interface with said computer,
- an engineer's keyboard for connection to said computer to enable the making of engineering changes in said computer operation,
- mounting means for movably mounting said engineer's keyboard on said top member for movement between an operational position in front of said top member and a retracted stored position at the underside of said top member,
- said mounting means including
  - a mounting bracket secured to the underside of said top member,
  - a pair of support guide members secured to said mounting bracket,
  - said engineer's keyboard includes a pair of cantilever support arms extending therefrom, and
  - guide means carried by said support arms in engagement with said guide members on said mounting bracket for movably supporting said engineer's keyboard through said two positions.

2. A computer interface control console as set forth in claim 1 wherein said guide means carried by said support arms comprise a pair of spaced guide pins extending outwardly from each of said arms, and wherein said support guide members on said mounting bracket include a pair of vertically extending plate members each having a pair of guide and